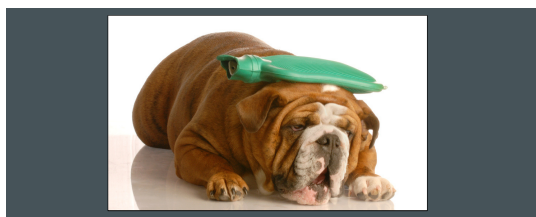


THE PRESENTATION WILL BEGIN
SHORTLY.THERE WILL BE NO AUDIO
UNTIL THEN.



INFLUENZA UPDATE: 2016/2017



NORTH DAKOTA
DEPARTMENT of HEALTH

INFLUENZA

■ A respiratory disease; common symptoms include:

- Fever $\geq 100^{\circ}$ F
- Cough
- Sore throat
- Also body aches, chills, headache, fatigue

■ NOT a gastrointestinal disease

- GI symptoms (vomiting, diarrhea) possible, seen generally in children, but should be accompanied by other symptoms
 - Fever w/ nausea and vomiting is very likely NOT influenza

NORTH DAKOTA
DEPARTMENT of HEALTH

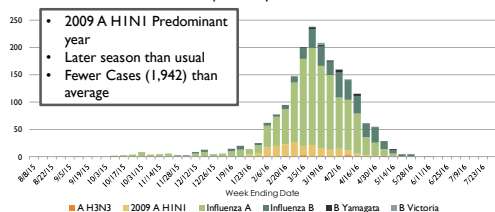
INFLUENZA

- Influenza is seasonal.
 - "Season" runs October through May
 - Most cases occur January-March in North Dakota
- But influenza can happen any time during the year!
 - Low circulation of seasonal viruses
 - Variant influenza associated with contact with pigs (usually summer)



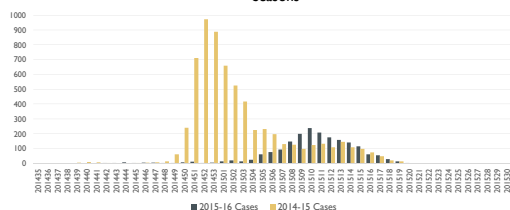
2015-2016 SEASONAL RECAP

Number of Reported Laboratory-Identified Influenza Cases Reported by Week



2015-2016 SEASONAL RECAP

Influenza Case Counts by Week for the 2014-15 and 2015-16 Seasons



2015-16 SEASONAL RECAP

- Five identified deaths, including one pediatric death.
 - School-aged child
 - Underlying medical conditions
 - First reported pediatric death since 2010-11 season
 - CDC reported 85 pediatric influenza-related deaths for 2015-16, down from 148 for the 2014-15 season.



ANTIVIRAL RECOMMENDATIONS

Used for treatment or prevention.

- Treatment: shorten duration of symptoms, possibly reduce risk of developing complications.
 - Recommended for patients who are hospitalized, have severe and/or progressive illness or who are at risk for influenza complications
 - Should be given as soon as possible after symptom onset, ideally within 48 hours
 - Should not wait for lab confirmation
- Prevention: prevent illness or severe illness in at-risk individuals
 - Should be given within 2 days of exposure
 - Routine use in general public not recommended—trying to avoid antiviral resistance.
- Three different forms available.



INTERVALS WITH ANTIVIRALS

- Inactivated vaccine (IIV) may be administered to a person on antivirals or anytime before or after antiviral treatment has been started

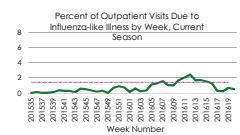


SURVEILLANCE

- Case reports: Lab-positive influenza A and B are reportable in North Dakota
- Sentinel outpatient ILI reports
- Lab reports
- School absenteeism reports
- Death data (Vital Records)
- Syndromic surveillance
- Outbreak reporting
 - Long term care influenza-like illness
 - >10% absenteeism for respiratory illness in schools



ILI SURVEILLANCE RECRUITING



2015-16 Percent ILI
Seasonal Baseline

Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2015-16 Influenza Season Week 9 ending Mar 19, 2016



We need more ILINet providers!

- Weekly reports
- Data used at state and national level
- Call me! 701.328.3341 or email jbaber@nd.gov

DEPARTMENT OF HEALTH
Division of Disease Control

SENTINEL PROVIDER REPORTS
OF INFLUENZA-LIKE ILLNESS (ILI)
(2015-16 Influenza Season)

Search for the top and middle
of the distribution (2015-16)

Number of Patients with ILI

0-4 Weeks
5-14 Weeks
15-24 Weeks
25-34 Weeks
35-44 Weeks
45-54 Weeks
55-64 Weeks
65-74 Weeks
75-84 Weeks
85-94 Weeks
95-104 Weeks

Total Number of Patients Seen for Any Reason

DO NOT CHECK BLANK! WITHOUT DATA, THE MAP
WILL BE INCOMPLETE

DO NOT CHECK BLANK! WITHOUT DATA, THE MAP
WILL BE INCOMPLETE



VACCINE RECOMMENDED FOR...

- Everyone 6 months and older!

PARTICULARLY IMPORTANT FOR PEOPLE WHO...

- Are 6 months-4 years old
- Are 50 years and older
- Have chronic pulmonary(including asthma), cardiovascular, renal, hepatic, neurologic, hematologic, or metabolic disorders(including diabetes)
- Are immunosuppressed(including immunosuppression caused by medication or HIV)
- Are or will be pregnant during the influenza season
- 6 months through 18 years and receiving long-term aspirin therapy and who therefore might be at a risk for experiencing Reye syndrome after influenza virus infection



PARTICULARLY IMPORTANT FOR PEOPLE WHO ARE...

- Residents of nursing homes and other chronic-care facilities
- American Indian or Alaska Natives
- Extremely obese (BMI is 40 or greater)
- Healthcare personnel
- Household contacts and caregivers of children ages younger than 5 years and adults ages 50 years and older, with particular emphasis on vaccinating contacts of children aged younger than 6 months
- Household contacts and caregivers of persons with medical conditions that put them at a higher risk for severe complications from influenza



TIMING OF VACCINATION

- CDC recommends that flu vaccine should be administered as soon as it is available
- Individuals should receive their flu vaccine by the end of October, if possible.
- Flu vaccine should continue to be offered as long as flu virus is circulating.
- Always remember to check expiration dates on your flu vaccine



AVAILABLE VACCINES

■ Trivalent

- Protects against 2 influenza A viruses and 1 influenza B virus
- Standard-dose trivalent
 - Different flu shots approved for ages 6 months and older
- High-dose trivalent
 - Approved for people 65 and older
- Trivalent made with adjuvant
 - helps create a stronger immune response-approved for people 65 and older
- Recombinant trivalent (RIV3)
 - egg free
 - Approved for people 18 and older



AVAILABLE VACCINES

■ Quadrivalent

- protects against 2 influenza A viruses and 2 influenza B viruses
 - Standard
 - includes shot approved for people as young as 6 months
 - Intradermal
 - injected into the skin instead of the muscle-using a much smaller needle- approved for 18-64 year olds
 - Cell culture
 - approved for people 4 years and older
- All IIV should be stored at 36°F-46°F (2°C-8°C) and should not be frozen. IIV that has been frozen should be discarded.

NORTH DAKOTA DEPARTMENT of HEALTH 2016 - 2017 Influenza Vaccine Dosage Chart

Vaccine	Presentation	Preservative	Age	Dosage
Fluarix® (Novartis)	0.25 mL syringe (IIV)	No	6 - 23 months	0.25 mL
	Multi-dose vial (IIV) and (IV)	Yes	4 months and older	0.25 mL/4 months - 37 months 0.5 mL/3 years and older
	0.5 mL vial (IIV)	No	3 years and older	0.5 mL
	0.5 mL syringe (IIV)	No		
	0.1 mL intradermal (IIV)	No	18 - 64 years	0.1 mL
	0.5 mL syringe high dose (IIV)	No	65 years and older	0.5 mL
Fluarix® (Novartis)	0.5 mL syringe (IIV)	No	3 years and older	0.5 mL
Fluzone® (Novartis)	Multi-dose vial (IIV)	Yes	3 years and older	0.5 mL
Fluzone® (Novartis)	0.5 mL syringe (IIV)	No	3 years and older	0.5 mL
Fluzone® (Novartis)	Multi-dose vial (IIV)	Yes	4 years and older	0.5 mL
Fluzone® (Novartis)	0.5 mL syringe (IIV)	No	4 years and older	0.5
Fluzone® (Novartis)	0.5 mL syringe (IIV)	No	9 years and older*	0.5 mL
Fluzone® (Novartis)	Multi-dose vial (IIV)	Yes		
Fluzone® (Novartis)	0.5 mL vial (IIV)	No	18 years and older	0.5 mL

*Fluzone® is NOT recommended for use during the 2016 - 2017 influenza vaccine season, so it is not included in the listing of recommended influenza vaccines.

*If an other age-appropriate, licensed (licensed medical influenza vaccine is available for a child ages 2 through 8 who has a medical condition that increases their risk of influenza complications, providers may use Fluzone®. However, providers should discuss the benefits and risks of influenza vaccination with parents or caregivers before administering either.

IIV = Trivalent (2 A strains, 1 B strain) inactivated influenza vaccine; IV = Quadrivalent (2 A strains, 2 B strains) inactivated influenza vaccine; IIV-Inactivated influenza vaccine; IIV-IPV = inactivated (split-viral) influenza vaccine.

For questions contact the immunization program at 701.328.5588 or toll-free 800.472.1183

LAIV OR FLUMIST® -NOT RECOMMENDED FOR 2016-2017 FLU SEASON!!

- ACIP has recommended Live attenuated intranasal influenza vaccine (LAIV) or FluMist® **not** be used for the 2016-2017 flu season.
- Data on LAIV efficacy for the 2015-2016 flu season was 3%
 - 95% confidence interval of -49% to 37%
 - (children ages 2-17 during 2015-2016 flu season)
- This means there was no protective benefit from LAIV
- IIV, however, had a efficacy of about 63% (95%CI: 52%-72%)
 - (children ages 2-17 during 2015-2016 flu season)



THIS SEASON'S VACCINE

- All of the 2016-2017 influenza vaccine is made to protect against the following three viruses:
 - an A/California/7/2009 (H1N1)pdm09-like virus
 - an A/Hong Kong/4801/2014 (H3N2)-like virus
 - a B/Brisbane/60/2008-like virus (B/Victoria lineage)
- Quadrivalent vaccine protects
 - B/Phuket/3073/2013-like virus (B/Yamagata lineage)-as well as above strains



EGG ALLERGY AND FLU VACCINE

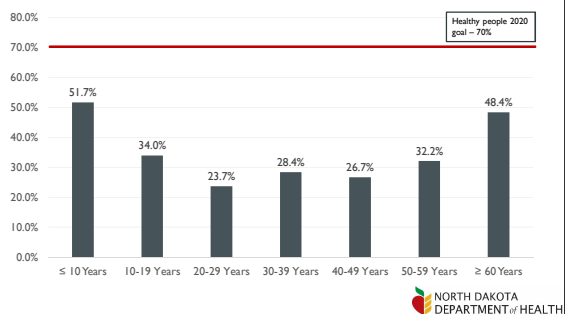
- Anyone with an egg allergy can receive any licensed flu vaccine.
 - Should be administered in an inpatient or outpatient medical setting
 - And should be supervised by a health care provider
 - No longer have to wait 30 minutes after receiving vaccine



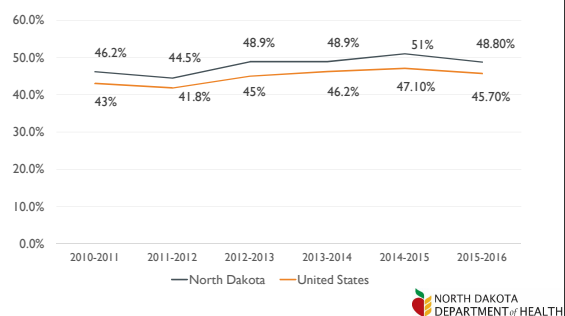
FLU VACCINE

- Age indications vary by type of influenza vaccine, but all flu shots may be given to people with chronic medical conditions who are older than 6 months of age.
- Based on manufacturer projection, IIV supply for 2016-2017 flu season should be sufficient despite recommendations against the use of LAIV.

VACCINATION RATES FOR THE 2015-2016 FLU SEASON IN NORTH DAKOTA (NDIIS)



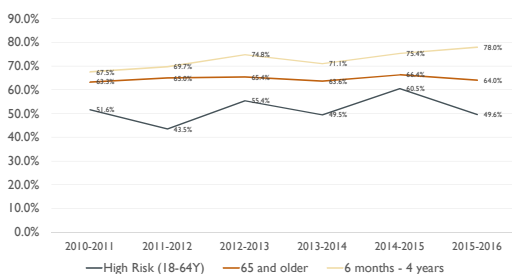
NATIONAL AND NORTH DAKOTA INFLUENZA VACCINATION RATES (>6 MONTHS)-NATIONAL IMMUNIZATION SURVEY AND BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM



ADULTS 65 AND OLDER

- Typically, flu vaccine works best in healthy adults and older children.
- Two vaccine types only approved for those 65 and older developed to create a stronger immune system:
 - High dose influenza vaccine-contains 4x the antigen as standard flu shot.
 - Data from clinical trials indicate higher antibody levels after receiving the high dose vaccine-ongoing study examining if higher antibody levels result in a higher immune response.
 - Adjuvanted flu vaccine-trivalent vaccine containing MF59 adjuvant
 - *New this season
- ACIP & CDC have not expressed a preference for high dose, adjuvanted, or standard flu vaccine for those 65 and older.
 - Mild side effects may be more common in high doses or in adjuvanted.

NORTH DAKOTA VACCINATION RATES AMONG HIGH RISK GROUPS- NATIONAL IMMUNIZATION SURVEY AND BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM

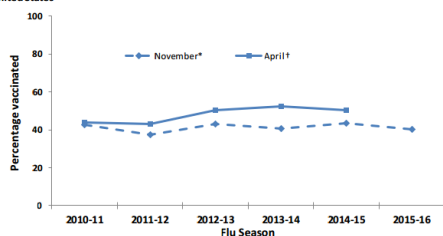
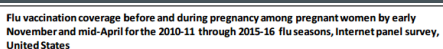


PREGNANT WOMEN

- Pregnant women are more prone to severe illness from flu & greater chance for serious problems for their developing baby.
- Flu vaccine is safe and recommended during any trimester of pregnancy.
 - Should not receive LAIV-which is not recommended for anyone this flu season.
- Pregnant women who receive the flu shot develop antibodies to the flu virus that may be passed on to their developing baby. Offers protection to baby for several months after birth.
 - Infants have lower risk of flu and flu related hospitalizations in first 6 months.
- The flu vaccine is also safe for women who are breastfeeding.
 - Reduces the mother's risk of getting sick and of passing the flu on to their baby
 - Especially important for mothers of infants who are under 6 months

- Among pregnant women visiting a physician or medical provider,
 - 64.6% received recommendation and offer of vaccination
 - 15% received recommendation-but no offer of vaccination
 - 23.4% did not receive a recommendation for flu vaccine
- Women who receive a recommendation for and an offer of vaccination from a doctor or other medical professional are
 - 3 times more likely to be vaccinated as women who only received a recommendation (but no offer)
 - And 8 times more likely to be vaccinated as women who did not receive a recommendations for vaccination
- Recommendations from trusted healthcare professionals is extremely important!!

PREGNANT WOMEN VACCINATION RATES- NATIONAL



Content source: <http://www.cdc.gov/flu/haveview/pregnant-women-nov2015.htm>
Centers for Disease Control and Prevention 1600 Clifton Rd. Atlanta, GA 30333, USA
800-CDC-INFO (800-232-6636) TTY: (888) 232-6348 - Contact CDC-INFO
Page last updated: December 24, 2015



NORTH DAKOTA
DEPARTMENT of HEALTH

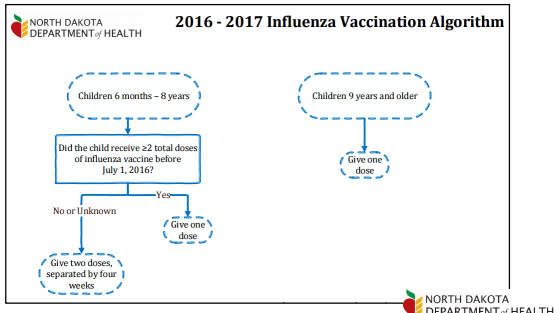
FLU VACCINE AND HEALTHCARE WORKERS

- Influenza vaccination is recommended for all health care workers by the CDC (Centers for Disease Control), ACIP (Advisory Committee on Immunization Practices), and NFIID (National Foundation for Infectious Diseases).
- Many health care workers begin to spread influenza before they even realize they are sick or continue to work despite illness.
 - Most individuals can spread the flu one day before symptoms develop.
- Up to 50% of health care workers, infected with influenza, are either asymptomatic or only experience mild symptoms.
- Flu can spread quickly in a health care setting.
- Get vaccinated to keep yourself, your patients, and your family healthy!



NORTH DAKOTA
DEPARTMENT of HEALTH

TWO DOSES OR ONE DOSE?



INFLUENZA VIS: GIVE TO PATIENT BEFORE ADMINISTERING VACCINE - HAS NOT CHANGED FROM LAST YEAR

INFLUENZA (Flu) Vaccine (Inactivated or Recombinant): What you need to know

1 | Why get vaccinated?

Influenza (the flu) is a contagious disease that spreads through the air. It is caused by a virus. It is most common in the winter months. It can cause a fever, cough, sore throat, and body aches. It can also lead to complications, such as pneumonia, especially in young children, the elderly, and people with chronic health conditions.

2 | Who should get vaccinated?

Everyone 6 months of age and older should get vaccinated. This includes children, adults, and pregnant women. People with chronic health conditions, such as asthma, diabetes, heart disease, and kidney disease, should get vaccinated. People who live in long-term care facilities, such as nursing homes, should get vaccinated. People who work in health care settings should get vaccinated. People who travel internationally should get vaccinated. People who are in contact with someone who has the flu should get vaccinated.

3 | Some people should not get this vaccine

People who have had a severe allergic reaction to a vaccine or any of its ingredients should not get this vaccine. People who have had Guillain-Barré syndrome should not get this vaccine. People who are currently getting a course of treatment for a fever should not get this vaccine.

4 | Signs of a vaccine reaction

Signs of a vaccine reaction include: fever, redness, swelling, and pain at the injection site. These signs usually appear within a few days of the injection and are mild. They usually go away on their own. If you have any of these signs, call your doctor. If you have a severe allergic reaction, such as difficulty breathing, swelling of the face, or a rash, call 911.

5 | What if there is a serious reaction?

If you have a serious reaction to a vaccine, you should see your doctor. Your doctor will give you a shot of epinephrine. If you have a severe allergic reaction, you should see your doctor. Your doctor will give you a shot of epinephrine.

6 | The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (NVICP) is a federal program that provides compensation to people who have been injured by a vaccine. It is a no-fault program. It covers injuries that are caused by a vaccine. It covers injuries that are caused by a vaccine.

7 | How can I learn more?

You can learn more about the flu vaccine by visiting the CDC website. You can also call the CDC at 1-800-232-6222. You can also call your doctor. You can also call your local health department.

NORTH DAKOTA DEPARTMENT OF HEALTH

VFC FLU VACCINE ALLOCATIONS

- Providers pre-book in the spring.
- North Dakota VFC program receives Flu vaccine in multiple shipments.
- Flu vaccine is allocated by the VFC program to providers.
- Amount providers receive in fall based on two things:
 - How much vaccine is given to the VFC program by CDC
 - How much vaccine was pre-booked by providers in February

FREQUENTLY ASKED INFLUENZA QUESTIONS

- When a child younger than nine received 2 doses of live flu vaccine previously, does the child need to receive 2 more doses this year?
 - No.
- Why is high dose flu vaccine not recommended over regular injectable vaccine for individuals 65 and older?
 - Data from clinical trials shows that antibody levels are higher for individuals 65 and older who received high dose over regular flu vaccine. However, whether the improved immune response leads to greater protection is not yet known. So, at this time one vaccine is not recommended over the other.



FREQUENTLY ASKED INFLUENZA QUESTIONS

- Is it ok to administer two doses of standard dose flu vaccine if high dose is not available?
 - No, this is not recommended.
- Can a patient who is receiving treatment for cancer receive influenza vaccine?
 - Yes, individuals with cancer can and should receive influenza vaccine.



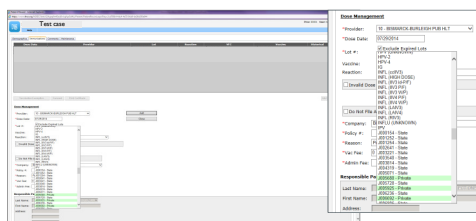
FREQUENTLY ASKED INFLUENZA QUESTIONS

- Can a woman who is pregnant or breastfeeding receive flu vaccine?
 - Yes. It is particularly important for pregnant women to receive flu vaccine.
- If a child younger than 3 is inadvertently given adult influenza vaccine, can the dose be counted as valid?
 - Yes, but it is important to realize that two errors occurred here. The child was given the wrong dosage as well as the wrong vaccine. It is important to select a vaccine that is licensed for the age of the child.



ENTERING INFLUENZA VACCINE IN NDIIS

- Flu vaccine must be entered into NDIIS within 4 weeks after administration.



NORTH DAKOTA
DEPARTMENT OF HEALTH

OTHER VACCINES

- Providers should also check immunization records to ensure patient receiving flu vaccine isn't due for any other vaccines (childhood or adult vaccines- such as PCV13, PPSV23, Zoster).

INCREASING RATES

- Sending reminders
- After hour clinics
- Employee clinics
- Remember flu shot at every point of care
- School clinics
 - Can also vaccinate community members at after hours school clinics

FLU KICKOFF AND MEDIA CAMPAIGN

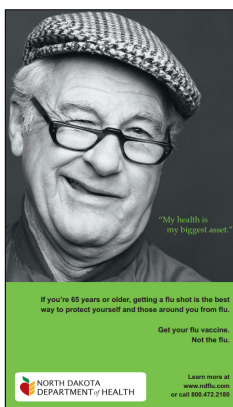
- Press Release sent out on September 29th
- NDDoH Press conference will occur on October 17, 2016
 - Will take place at North Dakota State University (Fargo)
 - North Dakota State University will be 'Vaccinating the Herd'
 - Student athletes



OTHER RESOURCES AVAILABLE

- NDDoH provides resources to encourage flu vaccination
 - Brochures
 - Posters
 - Ndfiu.com





TYPE YOUR QUESTION IN THE CHAT WINDOW TO THE RIGHT

After the presentation, questions may be sent to:

Molly Howell	mahowell@nd.gov
Abbi Berg	alberg@nd.gov
Lexie Barber	abarber@nd.gov
Mary Woinarowicz	mary.woinarowicz@nd.gov
Miranda Baumgartner	mlbaumgartner@nd.gov
Dominick Fitzsimmons	dfitzsimmons@nd.gov
Andy Noble	anoble@nd.gov
Jill Baber	jbaber@nd.gov

Immunization Program :
701.328.3386 or toll-free 800.472.2180

POST-TEST

- Post-test
 - Nurses interested in continuing education credit, visit <http://www.ndhealth.gov/disease/post/default.aspx?PostID=134>
 - Successfully complete the five-question post-test to receive your certificate
- Credit for this session available until November 8, 2016
- This presentation will be posted to our website: www.ndhealth.gov/immunize
